

Abstract

The invention allows to create a transistor which can operate in both a constant-voltage circuits and alternating-voltage circuits for example 120 volt and more (to several kilovolt), that is the transistor can be both closed and open with any polarity of a voltage on drain-source. It simplifies designing of many circuits and provides creating of circuits which cannot be produced with any other types of transistors. Besides, the transistor has high technical characteristics: a high current density, a high switching power, a very low on-voltage. It provides applying the transistor for generation, transmission and use of an electric energy. This is achieved by means of disposing of the elements of a bipolar mode static induction transistor: gates, sources, channels and electrodes -- on both major surfaces of a lightly doped n-type silicon monocrystal substrate; thick channels are connected to separate electrodes.